FISHERIES MANAGEMENT - RIVER SECTIONS

Management History

Toston Dam to Canyon Ferry Reservoir

Past management efforts have focused on rehabilitating degraded spawning and rearing habitat in tributaries that flow into both the river and Canyon Ferry Reservoir to enhance wild fish reproduction. These efforts have targeted both rainbow and brown trout populations. Fish population trends in the mainstem Missouri River are monitored with spring and fall electrofishing. Since 2015, seasonal colonization of walleye entering the river from Canyon Ferry Reservoir has been documented (Strainer 2018) and fish assemblage changes are likely occurring.

Hauser Tailrace

Trout populations in this segment of the Missouri River were monitored nearly annually until 1987 when surveys were discontinued due to concerns about potential adverse effects on spawning rainbow and brown trout. Due to increased fishing pressure and concerns over angler impacts to the fishery, electrofishing surveys (Appendix A) were resumed during odd-numbered years in 2003. Investigations of fish flushing have indicated that fish flushing, primarily rainbow trout and walleye, from Hauser Reservoir, heavily influenced the abundance and species of fish in the Hauser Tailrace reach (Skaar and Humphrey 1996; Teuscher and Humphrey 1996; Spinelli 2014). An increasing number of walleye have been caught in the Hauser Tailrace over the past 20 years, which corresponds with an increasing Canyon Ferry walleye population and years with high runoff.

Historically, this section of the Missouri River has been managed as a wild trout fishery. However, rainbow trout planted into Hauser and Holter reservoirs influence the resident population. Electrofishing data from 2017 indicated that approximately 80% of the rainbow trout population in the river was comprised of hatchery origin fish.

Historic brown trout population surveys from the 1980's indicated a robust number of large (nearly 50% larger than 18-inches) resident and migratory fish. Brown trout abundance declined from initial survey levels until the late 2000's, but survey results from the 2010's indicate that the population has recovered to historic levels.

River Management Limiting Factors and Species Goals

Limiting Factors

The following factors have been identified as limiting the fisheries production in the Missouri River between Toston Dam and Canyon Ferry Reservoir and the Missouri River downstream of Hauser Dam.

- Limited availability of quality spawning and rearing habitat for sustaining a high-density brown trout and/or rainbow trout fishery in both reaches of the Missouri River.
    - Below Toston Dam, high water temperatures (approaching 80 degrees) and low stream flow occasionally impact trout fisheries and the food base during drought years. High sediment loading also impacts the quality of habitat for trout and invertebrates. Although improvements to habitat and stream flow have been made on a number of tributaries in the system since 1991, the overall quality of available spawning and

rearing streams remains relatively poor. Extreme drought conditions from 2000-2007, 2013, and 2015-2016 have further deteriorated habitat conditions in the river and tributaries.

- Below Hauser Dam, Beaver Creek is the principal stream that supports substantial runs of spawning rainbow trout. U.S. Forest Service data demonstrates that large beaver dams on the lower reaches (the first 1-2 miles upstream of the confluence with the Missouri River) can substantially impact fish passage to important upstream spawning gravels. High sediment values and embeddedness of substrates further compound spawning success.

- Limited availability of quality habitat for rearing trout, particularly along shoreline areas, therefore resulting in poor juvenile rearing for brown trout, particularly during drought years. This lack of structural habitat, including good cover and holding areas for protection, results in increased predation by birds and fish.

- Whirling disease has been documented in the system, and although rates of infection appear to be relatively steady, increased mortality of juvenile rainbow trout rearing in tributaries can be expected as this disease persists. Increasing observations of physical deformities due to whirling disease at the Deep Creek fish trap are cause for concern for adult fish that were infected by the disease as juveniles. Long-term impacts will likely result in decreased numbers of juvenile rainbow trout and reduced recruitment of adults that were infected as juveniles.

- Angler observations of walleye and northern pike have increased in recent years. The development of a northern pike population within the reservoirs further confounds fisheries management in the river sections. Walleye and northern pike are highly predatory species and, depending on population abundance, could further limit fish production in the river as well as the reservoirs. Increased use of river habitats by both northern pike and walleye may result in increased predation losses for trout and forage fish.

- Walleye flushed from Canyon Ferry and Hauser Reservoirs into the Missouri River below Hauser Dam influence the dynamics of the multi-species fishery. Detailed information on the magnitude of flushing rates from Canyon Ferry is needed to determine timing, magnitude, and influence of walleye flushing. Currently, no screening devices are in place on Canyon Ferry or Hauser Dams to prevent walleye from being flushed.

- Angling pressure in the Hauser Tailwater section is increasing, especially motorized use (MFWP 2019), because of the proximity to the greater Helena area and other nearby urban areas. The growing population in the greater Helena area and other nearby urban areas suggests that pressure will continue to increase as the quality of this river section becomes more widely known.

Species Goals and Strategies

In order to manage a fish community that includes multiple fish species, it is important to recognize that the goal for each species is affected by the success of management strategies for the other species in the system and not all fish species can be maximized simultaneously. The primary plan goal for the two river sections is to emphasize management for wild trout while recognizing the importance of walleye, burbot and kokanee (Hauser Tailrace only) for providing additional angling opportunity.

Toston Dam to Canyon Ferry Reservoir

The goal for managing the Missouri River between Toston Dam and Canyon Ferry Reservoir is to provide naturally reproducing brown and rainbow trout populations in the Missouri River and associated tributaries for recreational fishing opportunities, and to provide important spawning and rearing conditions from Toston Dam to Canyon Ferry Dam.

In addition, a migratory walleye population (Strainer 2018) increasingly provides recreational fishing opportunities in the main stem Missouri River from approximately April through October; however, the walleye population can impact trout populations throughout this river section. The goal for this section of the plan is to maintain the current multi-species fish assemblage.

Hauser Tailrace

The management goal for the 4.6-mile-long reach of the Missouri River below Hauser Dam is to provide a quality multi-species fishery focused on wild rainbow and brown trout, with walleye and kokanee providing a low-level component to the fishery.

Rainbow Trout

Goals

Rely on wild reproducing rainbow trout to provide a cost-effective, sustainable fishery. Manage rainbow trout as a principle game fish.

- Achieve and maintain CPUE or population estimate goals for each river section.

Waterbody Strategies

Toston Dam to Canyon Ferry Reservoir:

- Maintain fall abundance at or above 1.0 rainbow trout per minute based on fall catch per unit effort (CPUE) electrofishing sampling near Toston.
- Rely on rainbow trout to provide quality fishing opportunities during spring and fall periods, recognizing that summer habitat conditions are impacted by low flow and elevated water temperature during low flow years.
- Recognize that stocking success of rainbow trout in Canyon Ferry Reservoir influences abundance of the fishery in the Missouri River.
- Continue to explore and enhance spawning and rearing habitat in tributary streams.
- Implement an angler creel survey to determine the effect of angler harvest to the fishery.

Hauser Dam to Holter Reservoir:

- Maintain abundance at or above 3,500 rainbows per mile during fall electrofishing surveys.
- Continue angler creel census to evaluate angler catch rates, annual harvest of rainbow trout, percent of rainbows caught and released, among several other statistics.

- Monitor reservoir-operating plans to ensure adequate stream flows to support fish populations.
- Continue fall electrofishing on odd-numbered years to monitor rainbow trout numbers. If rainbow trout abundance falls below 1,000 rainbow trout per mile, consider regulation changes to protect the wild trout fishery. Changes may include but are not limited to:
    - Seasonal closures and/or time of day closures to protect limited spawning areas in the reach for sexually mature fish.
    - Evaluation of additional motorized restrictions (also see other Management Issues) and increases in guided fishing pressure and strategies to address the issue.

Both River Sections:

- Encourage the development and maintenance of wild rainbow trout spawning and recruitment.
- Continue tributary habitat enhancement. Work with local water districts, irrigators, and other entities to improve stream flows during critical periods. Continue work with the Forest Service for habitat and fish passage improvements in lower Beaver Creek.
- Maintain harvest regulations designed to protect spawning fish in tributaries and other important spawning areas.
- Continue monitoring walleye impacts to the wild trout fishery (e.g., walleye diet analysis).
- Continue stocking wild strains of rainbow trout in plan area reservoirs to support the existing spawning runs in the system. Monitor movement and use of the river by domesticated strains of rainbow trout.
- Continue working with Hauser and Toston Dam operations for flow releases desirable for aquatic life.
- Identify additional limiting factors and consider management changes as needed.
- Educate anglers about current regulations and rationale for management actions.

Brown Trout

Goals

Rely on brown trout to provide a resident trophy-fishing experience that is reliant entirely on wild reproduction. Manage brown trout as a principle game fish.

- Achieve and maintain CPUE or population estimate goals for each river section.

Waterbody Strategies

Toston Dam to Canyon Ferry Reservoir:

- Maintain and enhance brown trout abundance at or above approximately 0.40 brown trout per minute based on CPUE sampling near Toston.

- Continue to enhance spawning and rearing areas, particularly where groundwater and spring areas exist.
- Continue to implement catch and release only regulations for brown trout. Children age 14 and under can possess one brown trout.
- Recommend allowing harvest if brown trout abundance increases above management goals in the river and in the reservoir.
- Identify additional limiting factors and consider management changes as needed.
- Implement an angler creel survey to determine the effect of angler harvest to the fishery.

Hauser Dam to Holter Reservoir:

- Maintain brown trout abundance at or above 150 brown trout per mile during fall electrofishing surveys (MFWP 2010).
- Maintain the catch and release fishing regulation for brown trout for this reach of the Missouri River and Holter Reservoir.
- Consider additional restrictions if brown trout numbers fall below 100 brown trout per mile during fall estimates.
    - Consider use of seasonal fishing closure during critical spawning periods.
- Identify critical spawning areas and seasonally restrict fishing these areas if deemed feasible.
- Continue work with the U.S. Forest Service to improve potential spawning habitat in Beaver Creek.
- Continue angler creel census to evaluate angler catch rates among several other statistics.
- When feasible, monitor the Holter Reservoir kokanee population and evaluate impacts to the brown trout population in the Hauser tailrace. Only consider stocking surplus kokanee in Holter Reservoir if there are no observable effects to brown trout abundance.

Both River Sections:

- Continue working with Hauser and Toston Dam operations for flow releases desirable for aquatic life

Walleye

Goals

Rely on migratory walleye to supplement the fishery while minimizing impacts on existing trout and forage species.

- Monitor walleye abundance in the river sections via boat electrofishing surveys.

Waterbody Strategies

Toston Dam to Canyon Ferry Reservoir:

- Use boat electrofishing surveys to monitor population abundance and size structure. Due to demonstrated connectivity with the reservoir fishery, identify potential impacts to the reservoir walleye fishery when evaluating management of walleye in the river.
- Rely on walleye to provide fishing opportunity during summer months based on the current pattern of migration into the river during the spring and the return to the lake during fall. Manage river walleye population as principle game fish and to minimize impacts on existing trout and forage species.
- Implement an angler creel survey to determine the effect of angler harvest to the fishery.
- Evaluate monitoring criteria for implementing management action for walleye in the river between Toston and Canyon Ferry.

Hauser Dam to Holter Reservoir:

- Continue angler creel census to evaluate angler catch rates, annual harvest of walleye, percent of walleye caught and released, among several other statistics.

Both River Sections:

- Consider impacts with adjacent reservoir management goals, strategies, and regulations when implementing river management actions.
- Continue to monitor Missouri River walleye populations and determine impacts to wild trout populations in the river.
- Recommend additional management actions as needed.

Northern Pike

Goals

Monitor and suppress the northern pike population from Toston Dam to Holter Dam and evaluate impacts to other species.

Waterbody Strategies

Toston Dam to Canyon Ferry Reservoir:

- Allow spear fishing for northern pike in the impoundment above Toston Dam and Canyon Ferry Reservoir.

Both River Sections:

- Eliminate all angler bag limits for northern pike in the upper Missouri River reservoir system and in the Missouri River. Manage northern pike population according to the Missouri River Basin Northern Pike Suppression Project EA Decision Notice. See Appendix D for additional discussion

on northern pike suppression efforts within the Upper Missouri River Reservoir Fisheries Management Plan area.

- Identify critical spawning habitats in the river and reservoir and determine if habitat manipulations can suppress pike numbers and emigration through the system.
- Explore other opportunities or techniques to suppress pike numbers.
- Determine impacts of northern pike to existing fish assemblage throughout the plan area; specifically, to the existing forage base.

Kokanee Salmon

Goals

Rely on kokanee salmon flushed from Hauser Reservoir and any natural reproduction or supplemental stocking that may occur in Holter Reservoir to contribute in a limited way to the multi-species fishery.

Waterbody Strategies

Hauser Dam to Holter Reservoir:

- Depend on potential supplemental kokanee stocking and natural reproduction from Holter Reservoir to provide a low-level kokanee fishery to the Hauser tailrace.
- Reduce or discontinue stocking kokanee in Holter Reservoir if kokanee impact spawning of brown trout in the Hauser tailrace.